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3 a first sensor[ing means] for detecting infrared signals incident thereon and  
3 converting said signals to an electrical current signal;  
4 a gain controller[ means] for amplifying said current signals; and  
5 a voltage converter[sion means] for converting said current signals into voltage  
6 signals.

1 2. (Amended) The system of Claim 1, wherein said first sensor[ing means] comprises  
2 a diode.

1 3. (Amended) The system of Claim 2, further comprising a staged amplifier[cation  
2 means] in circuit between said gain controller[ means] and said voltage converter[sion  
3 means], said staged amplifier[cation means] configured to amplify said current signals.

1 4. (Amended) The system of Claim 2, wherein said gain controller[ means] comprises  
2 a current mirror in operative connection with a transimpedance amplifier.

3 5. (Amended) The system of Claim 4, wherein said transimpedance amplifier  
4 comprises:

5 a first transistor[ means], said first transistor[ means] comprising a first drain and a  
6 first gate;

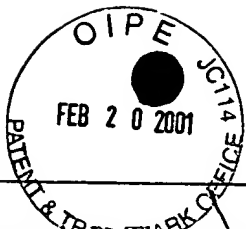
7 a second transistor[ means], said second transistor[ means] comprising a second  
8 source and a second drain, said second source being in circuit with said first drain;

9 a third transistor[ means], said third transistor[ means] comprising a third gate and a  
10 third source, said third gate being in circuit with said second drain; and

11 a fourth transistor[ means], said fourth transistor[ means] comprising a fourth drain  
12 and a fourth gate, said fourth drain in circuit with said fourth gate and said first gate.

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1 8. (Amended) The system of Claim 7, wherein each said transistor[ means] comprises  
2 bias voltage, and wherein said bias voltage is dynamically adjustable in order to  
3 operate each said transistor in a weak inversion range.

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1 (Amended) A improved method for detecting and amplifying incident wireless  
2 signals, said method being implemented in a infrared transceiver system comprising a  
3 signal detector[ing means], a voltage converter and a signal amplifier[ying means],  
4 said method comprising the steps of:

5 said signal detector[ing means] converting said incident wireless signals into  
6 electrical current signals; and

7 said amplifier[ying means] amplifying said electrical current signals.

1 10. (Amended) The method of Claim 9, wherein said gain controller[ means] further  
2 comprises a staged current amplifier[cation means] for amplifying said current signals  
3 in stages, said current amplifier[cation means] in circuit before said voltage  
4 converter[sion means].

1 11. (Amended) An improved wireless signal receiver system, comprising:

2 a first sensor[ing means] for detecting wireless signals incident thereon and  
3 converting said signals to an electrical current signal;

4 a gain controller[ means] for amplifying said current signals; and

5 a voltage converter[sion means] for converting said current signals into voltage  
6 signals.

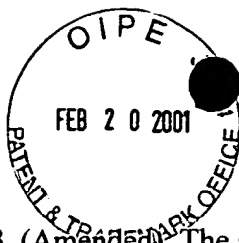
1 12. (Amended) The system of Claim 11, further comprising a staged amplifier[cation  
2 means] in circuit between said gain controller[ means] and said voltage  
3 converter[sion means], said staged amplifier[cation means] configured to amplify said  
4 current signals.

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1 13. (Amended) The system of Claim 12, wherein said gain controller[ means] comprises  
2 a current mirror in operative connection with a transimpedance amplifier.

1 14. (Amended) The system of Claim 13, wherein said transimpedance amplifier  
2 comprises:

3 a first transistor[ means], said first transistor[ means] comprising a first drain and a  
4 first gate;

5 a second transistor[ means], said second transistor[ means] comprising a second  
6 source and a second drain, said second source being in circuit with said first drain;

7 a third transistor[ means], said third transistor[ means] comprising a third gate and a  
8 third source, said third gate being in circuit with said second drain; and

9 a fourth transistor[ means], said fourth transistor[ means] comprising a fourth drain  
10 and a fourth gate, said fourth drain in circuit with said fourth gate and said first gate.

1 17. (Amended) The system of Claim 16, wherein each said transistor[ means] comprises  
2 bias voltage, and wherein said bias voltage is dynamically adjustable in order to  
3 operate each said transistor in a weak inversion range.

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**Clean Copy of all Claims:**

- 1    1.        An improved infrared transceiver system comprising:  
2            a first sensor for detecting infrared signals incident thereon and converting said signals to  
3            an electrical current signal;  
4            a gain controller for amplifying said current signals; and  
5            a voltage converter for converting said current signals into voltage signals.
- 1    2.        The system of Claim 1, wherein said first sensor comprises a diode.
- 1    3.        The system of Claim 2, further comprising a staged amplifier in circuit between said  
2            gain controller and said voltage converter, said staged amplifier configured to amplify said  
3            current signals.
- 1    4.        The system of Claim 2, wherein said gain controller comprises a current mirror in  
2            operative connection with a transimpedance amplifier.
- 1    5.        The system of Claim 4, wherein said transimpedance amplifier comprises:  
2            a first transistor, said first transistor comprising a first drain and a first gate;  
3            a second transistor, said second transistor comprising a second source and a second drain,  
4            said second source being in circuit with said first drain;  
5            a third transistor, said third transistor comprising a third gate and a third source, said third  
6            gate being in circuit with said second drain; and  
7            a fourth transistor, said fourth transistor comprising a fourth drain and a fourth gate, said  
8            fourth drain in circuit with said fourth gate and said first gate.
- 1    6.        The system of Claim 5, wherein said current mirror is in circuit with said second drain  
2            and said third gate.

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1 7. The system of Claim 5, further comprising an output terminal, said output terminal  
2 being in circuit with said third source and said fourth drain.

1 8. The system of Claim 7, wherein each said transistor comprises bias voltage, and  
2 wherein said bias voltage is dynamically adjustable in order to operate each said transistor in a  
3 weak inversion range.

1 9. A improved method for detecting and amplifying incident wireless signals, said method  
2 being implemented in a infrared transceiver system comprising a signal detector, a voltage  
3 converter and a signal amplifier, said method comprising the steps of:

4 said signal detector converting said incident wireless signals into electrical current signals;  
5 and

6 said amplifier amplifying said electrical current signals.

1 10. The method of Claim 9, wherein said gain controller further comprises a staged current  
2 amplifier for amplifying said current signals in stages, said current amplifier in circuit before  
3 said voltage converter.

1 11. An improved wireless signal receiver system, comprising:

2 a first sensor for detecting wireless signals incident thereon and converting said signals to  
3 an electrical current signal;

4 a gain controller for amplifying said current signals; and

5 a voltage converter for converting said current signals into voltage signals.

1 12. The system of Claim 11, further comprising a staged amplifier in circuit between said  
2 gain controller and said voltage converter, said staged amplifier configured to amplify said  
3 current signals.

1 13. The system of Claim 12, wherein said gain controller comprises a current mirror in  
2 operative connection with a transimpedance amplifier.

1 14. The system of Claim 13, wherein said transimpedance amplifier comprises:

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2 a first transistor, said first transistor comprising a first drain and a first gate;

3 a second transistor, said second transistor comprising a second source and a second  
4 drain, said second source being in circuit with said first drain;

5 a third transistor, said third transistor comprising a third gate and a third source, said  
6 third gate being in circuit with said second drain; and

7 a fourth transistor, said fourth transistor comprising a fourth drain and a fourth gate,  
8 said fourth drain in circuit with said fourth gate and said first gate.

1 **15.** The system of Claim 14, wherein said current mirror is in circuit with said second drain  
2 and said third gate.

1 **16.** The system of Claim 14, further comprising an output terminal, said output terminal  
2 being in circuit with said third source and said fourth drain.

1 **17.** The system of Claim 16, wherein each said transistor comprises bias voltage, and  
2 wherein said bias voltage is dynamically adjustable in order to operate each said transistor in a  
3 weak inversion range.

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